

**WHAT IS CLAIMED IS:**

1. An air supply apparatus in combination with semiconductor device fabricating equipment, the air supply apparatus comprising:

a source of ultra-pure water;

a buffer tank;

an ultra-pure water pipe connecting said source of ultra-pure water to said buffer tank so as to deliver ultra-pure water from the source of ultra-pure water to the buffer tank;

a temperature/humidity controller connected to said buffer tank so as to receive ultra-pure water therefrom and operative to control the temperature and humidity of air;

an air pipe connecting said temperature/humidity controller to the semiconductor device fabricating equipment so as to deliver the air from the temperature/humidity controller to the semiconductor device fabricating equipment; and

at least one valve that allows the air supply apparatus to be selectively operated in a normal mode in which ultra-pure water is delivered from said source of ultra-pure water through said ultra-pure water pipe to said buffer tank and from said buffer tank to said temperature/humidity controller, and a cleaning mode in which the ultra-pure water in the buffer tank is delivered to the temperature/humidity controller while the delivery of ultra-pure water from said source of ultra-pure water to said buffer tank through said ultra-pure water pipe is stopped.

2. The combination as set forth in claim 1, wherein said air supply apparatus further comprises a source of nitrogen, and a nitrogen supply pipe connecting said source of nitrogen to said buffer tank, whereby nitrogen delivered to said buffer tank through the nitrogen supply pipe forces ultra-pure water from the buffer tank into the temperature/humidity controller.

3. The combination as set forth in claim 2, wherein said air supply apparatus further comprises an exhaust pipe connected to said buffer tank and through which nitrogen gas can be exhausted from the buffer tank.

4. The combination as set forth in claim 1, wherein said air supply apparatus further comprises level sensors operative to sense the level of the ultra-pure water in the buffer tank.

5. The combination as set forth in claim 1, wherein said at least one valve comprises a valve disposed in said ultra-pure water pipe.

6. The combination as set forth in claim 3, wherein said at least one valve comprises respective valves disposed in said exhaust pipe, said nitrogen supply pipe, and said ultra-pure water pipe.

7. An air supply apparatus in combination with semiconductor device fabricating equipment, the air supply apparatus comprising:

a source of ultra-pure water;

a buffer tank;

an ultra-pure water pipe connecting said source of ultra-pure water to said buffer tank so as to deliver ultra-pure water from the source of ultra-pure water to the buffer tank;

a temperature/humidity controller connected to said buffer tank so as to receive ultra-pure water therefrom and operative to control the temperature and humidity of air;

an air pipe connecting said temperature/humidity controller to the semiconductor device fabricating equipment so as to deliver the air from the temperature/humidity controller to the semiconductor device fabricating equipment; and

control means for allowing the apparatus to be selectively operated in a normal mode and a cleaning mode, the temperature/humidity controller receiving ultra-pure water during each of said modes.